

omit EV \rightarrow #1, 8

KEY

AFM Unit 6 Quiz Review

Name: _____ Date: _____

X omit

Debbie keeps her marble collection in a jar. Of the 50 marbles in the jar, 15 are red, 10 are blue, 20 are green, and 5 are yellow. Debbie randomly chooses 30 marbles from the jar. How many of these marbles can she expect to be red?

- A. 3 marbles B. 6 marbles
C. 9 marbles D. 2 marbles

.3(30)

2. Mary Beth had a bag with 25 colored beads. There were 5 different colors and 5 beads of each color. Mary Beth drew a bead from the bag and replaced it 30 times and recorded the results.

Beads Drawn from a Bag

Bead Color	Number of Times Drawn
red	6
blue	5
yellow	5
green	7
purple	7

$\frac{6}{25}$

What are the experimental and theoretical probabilities that Mary Beth will draw a blue bead when she tries again?

- A. theoretical probability = $\frac{1}{5}$; experimental probability = $\frac{1}{5}$
 B. theoretical probability = $\frac{1}{5}$; experimental probability = $\frac{1}{10}$
 C. theoretical probability = $\frac{1}{5}$; experimental probability = $\frac{1}{3}$
 D. theoretical probability = $\frac{1}{5}$; experimental probability = $\frac{1}{30}$

$\frac{5}{30} = \frac{1}{6}$ exp

3. The table represents the sums of rolling two dice. The numbers at the top represent the numbers on one die and the numbers on the left represent the other die.

+	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

A

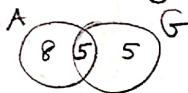
When 2 dice are tossed, what is the theoretical probability that the sum will be a multiple of 2?

- A. $\frac{1}{2}$ B. $\frac{1}{3}$ C. $\frac{1}{4}$ D. $\frac{1}{5}$

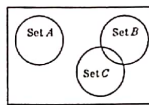
$\frac{18}{36} = \frac{1}{2}$

4. In a particular math unit there were 13 techniques used in the various algebra problems and 10 techniques used in the geometry problems. 5 of these techniques were used in both types of problems. If a student is determined to learn all of the techniques covered in the unit, how many techniques must they learn?

- A. 65 B. 28 C. 23 D. 18



5. Which statement is correct about the diagram?



C

- A. All members of Set C are members of Set B.
 B. No member of Set B are members of Set C.
 C. No members of Set A are members of Set B.
 D. Set B and Set C have no members in common.

6. Consider the following set of numbers

{1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

A

What is the probability of drawing an even number or a multiple of 3?

- A. $\frac{7}{10}$ B. $\frac{4}{5}$ C. $\frac{7}{100}$ D. $\frac{3}{25}$

$\frac{5}{10} + \frac{3}{10} - \frac{1}{10} = \frac{7}{10}$

7. A card is drawn at random from a standard 52-card deck. Find the probability it is a king or black card.

A

- A. $\frac{1}{13}$ B. $\frac{1}{17}$ C. $\frac{11}{52}$ D. $\frac{1}{17}$

$\frac{4}{52} + \frac{26}{52} - \frac{2}{52} = \frac{28}{52}$

X

A game is played by rolling a fair six-sided die once. If the die lands on a 1 the player wins \$5 otherwise the player loses \$1.50. What is the value of the game?

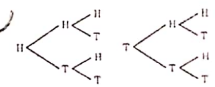
B

- A. \$0.10 B. \$0.08
 C. -\$0.10 D. \$0.18

$\frac{1}{6}(5) + -1.50(\frac{5}{6})$

9. A fair coin is tossed 3 times, and the possible outcomes are shown in the diagram. What is the total number of possible outcomes of this experiment?

C



- A. 2 B. 4 C. 8 D. 12

10. How many different ways can you arrange four different letters?

D

- A. 2 B. 3 C. 4 D. 24

4!

11. Ms. Garza is redecorating her office. She has a choice of 3 colors of paint, 4 kinds of curtains, and 2 colors of carpet. How many different combinations of paint, curtains, and carpet can she use?

- D A. 8 B. 9 C. 12 D. 24

$$3 \cdot 4 \cdot 2$$

12. Using the digits 1, 2, 4, 7, and 8, how many 3-digit whole numbers can be formed if repetitions are permitted?

- C A. 15 B. 60 C. 125 D. 448

$$\underline{5} \cdot \underline{5} \cdot \underline{5}$$

$$124$$

$$421$$

13. A car license plate consists of 6 characters. The first 3 characters are letters excluding I, O, Q, and U. The last 3 characters are any of the numerals from 0 to 9. How many different license plates are possible?

- B A. 96 B. 10,648,000
C. 17,762,392 D. 20,648,000

$$22 \cdot 22 \cdot 22 \cdot 10 \cdot 10 \cdot 10$$

14. A license plate has 4 letters on it. If no letter can be repeated, then how many different plates are possible?

- A A. 358,800 B. 14,950
C. 179,400 D. 20,800

$$26 \cdot 25 \cdot 24 \cdot 23 =$$

$$26 P_4 =$$